

REMARKS

Claims 1, 3-12, and 57-63 are pending in this application. Claims 1, 58 and 60 have been amended. No new matter has been added.

Claims Rejections

2. Claims 1 and 3-12 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claim 1 has been amended to recite a low friction material that defines a side surface of the shoulder. Figures 1, 2 and 3 describe the shoulder 28 comprising portion 34 of the low friction material being positioned in the shoulder 28. Portion 34 has a surface 36 that is capable of contacting the road. As illustrated in the figures, this surface 36 is side-facing.

4. Claim 60 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claims the subject matter which applicant regards as the invention.

Claim 60 has been amended to more particularly claim Applicant's invention and recite the second side surface at the other side of the tread surface and the low friction material being positioned in at least one of the ribs of the second side surface.

7. Claims 1, 3, 6, 8, and 57 have been rejected under 35 U.S.C. 102 (b) as being anticipated by Japan 177 (JP 3-246177).

Claim 1 has been amended to recite that the tire is mounted on a wheel of a vehicle such that the tire directly contacts the road.

Japan 177 discloses a vehicle for driving on what the reference refers to as "ungroomed terrain," in which the rear drive is a rubber crawler belt mounted on a plurality of wheel tires. Japan 177 discloses that the crawler drives suffer from friction problems between the side of the tires and the adjacent sides of the belt which causes the tires to ride-up on the side-guides of the belt and separate from the belt.

The friction reducing material (for example: resin net 61 in Figure 15) purports to reduce friction between the tires and belt sides. This low friction material (resin net) is not part

of the tread portion as required by recited claim 1. Further, the tires in the rear drive (refer to Figure 15) drive the crawler belt, contact only the inside of the belt and do not contact the ground or any road surface. As they are fitted inside of the continuous belt/track, the outside surface of the belt/track, and not the tires, engage the road surface or ground. Japan 177 does not disclose low friction material in a tire that is mounted on a wheel of a vehicle and that directly contacts the road, or low friction material that engages the road in response to side forces exerted on the tire as required by amended claim 1.

Unlike the Japan 177 reference, Applicant's invention is directed specifically to a road-engaging tire (the tire being mounted on a wheel of a vehicle and that directly contacts the road) in which low friction material positioned, e.g., on the shoulder between the circumferentially outward facing tread surface and the tire sidewall (amended claim 1), or on the side of the ribs of the tread design (amended claim 58), will come into contact with the road surface when a vehicle makes a hard turn. In Applicant's tire, and quite unlike Japan 177, this low friction material will reduce frictional forces between the tire and road in these circumstances, and thus will reduce the chances that the vehicle will roll-over.

The present invention and the Japan 177 reference are thus directed to different solutions to different problems – i.e., the low friction material that will come into contact with the road during a hard turn and thus reduce the chance that a vehicle will tip over (Applicant's invention), and low friction material on the side of a tire that is positioned inside a crawler belt and never contacts the road to prevent the tire from riding up on and simply coming off the belt (Japan 177).

At least for these reasons, the now pending claims are neither anticipated by nor obvious in view of the Japan 177 reference, and should be allowed.

8. Claims 7-8 and 11-12 have been rejected under 35 U.S.C. 103 (a) as being unpatentable over Japan 177 in view of Muramatsu et al (US 5,541,489) and/or Bartkowiak (US 5,069,331).

For the reasons stated before, with respect to the Japan 177 reference, claims 7-8 and 11-12 are not obvious in view of the cited references (Muramatsu et al and Bartkowiak).

9. Claims 1, 3-6, 8 and 57-63 have been rejected under 35 U.S.C. 103 (a) as being unpatentable over Japan 177 in view of Bonko (US 6,386,652) or Tucker (US 3,276,823).

The Bonko and Tucker references do not teach either *“the tread portion having (i) a plurality of ribs and grooves defining a radially outwardly facing tread surface and (ii) a shoulder positioned at one side of the tread portion, the shoulder being radially between the radially outwardly facing tread surface and one of the pair of sidewall portions, ~~and said tire being mounted on a wheel of a vehicle such that the tire directly contacts the road, and the~~ shoulder of the tread portion having low friction material that defines a ~~generally side-facing~~ surface of the shoulder and that is arranged to engage ~~the a road surface~~ in response to side forces exerted on the tire and to reduce frictional forces between the tire and the road when the low friction material contacts the road, thereby minimizing vehicle rollover or oversteer.”* (amended claim 1) or *“the tire having a plurality of ribs and grooves that form (i) a radially outwardly facing tread surface and (ii) a side surface that extends radially inwardly of the radially outwardly facing tread surface, ~~and said tire being mounted on a wheel of a vehicle such that the tire directly contacts the road, and at least one of the ribs forming the side surface having low friction material that defines at least a portion of the side surface and is arranged to engage a road in response to side surfaces exerted on the tire and to reduce frictional forces between the tire and the road when the low friction material contacts the road, thereby minimizing vehicle rollover or oversteer.”~~* (amended claim 58). Rather, Bonko teaches away from having low friction material in the shoulder (in the plurality of ribs) that is a part of the tread portion, and for this low friction material to reduce frictional forces between the tire and the road when this material contacts the road. Bonko, and Tucker, instead disclose a tire that does not slip when the internal surface of the track and the tread of the tire become lubricated with mud or sloppy soil (Bonko), or pneumatic tires for an endless rubber track with ribs and grooves so that the outer surface of the tire engages the inner surface of the track in a gear like non-slipping relation (Tucker).

For these and the reasons stated before with respect to the Japan 177 reference, claims 1, 3-6, 8 and 57-63 are not obvious in view of the cited references, and should be allowed.

10. Claim 7 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 177 in view of Bonko or Tucker as applied above and further in view of Japan 413 (JP 63-218413).

For the reasons stated before, with respect to reference Japan 177, claim 7 is not obvious in view of the cited references, and should be allowed.

11. Claims 5 and 9 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 177 in view of Bonko or Tucker as applied above and further in view of Costa Pereira et al (US 6,116,313).

For the reasons stated before, with respect to reference Japan 177, claims 5 and 9 are not obvious in view of the cited references, and should be allowed.

12. Claims 7 and 10-12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 177 in view of Bonko or Tucker as applied above and further in view of Muramatsu et al (US 5,541,489) and/or Bartkowiak (US 5,069,331).

For the reasons stated before, with respect to reference Japan 177, claims 7 and 10-12 are not obvious in view of the cited references, and should be allowed.

13. Claims 1, 3, 4, 6, 57-61 and 63 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 403 in view of Shibata (US 4,152,186), Landers et al (US 6,450,223) and Japan 610 (JP 4-126610).

Japan 403 (JP 2-197403) discloses the use of low friction material for decreasing excessive deformation of a tire, deformation (typically resulting from insufficient air pressure or an excessive load) which otherwise could cause the tire to separate from the rim. A band-shaped, low friction member is provided on the tire sidewall – radially inwardly of (and not on) the tread shoulder as required by recited amended claim 1 and amended claim 58. The low friction member disclosed in Japan 403 is not provided in the tread shoulder defined in Applicant's invention nor does it overlap the region in Applicant's invention.

As described in the "operation of the embodiment" in the Japan 403 reference, "under standard driving conditions, with the tire deformation that occurs when ... a sudden turn is made only the tread 2 and the border between the sidewall and the tread 2, which is known as

the shoulder, contact the ground.” “[T]he low-friction member 8 [which is on the tire sidewall] does not contact the ground.”

Unlike the Japan 403 reference, which is directed to preventing separation overloaded or under inflated tires from the rim, the Applicant’s invention is directed to preventing vehicle rollover. Thus, rather than providing low friction material in the tire sidewall (Japan 403), Applicant’s invention provides such a material in the portion of the tire radially outwardly of the tire sidewalls, that (unlike the sidewalls) does contact the ground when a sudden turn is made. When a vehicle having Applicant’s tires makes a hard turn, e.g., oversteers, the low friction material often will come into contact with the road surface, and when it does, the low friction material on the tread shoulder will reduce the frictional forces between the tire and road, and thus reduce the chances that the vehicle will roll-over.

There is no teaching or suggestion in the Japan 403 reference of providing low friction material in the shoulder (which is part of the tread (amended claim 1) portion) or the plurality of ribs or grooves that form a side surface (amended claim 58) for preventing rollover or oversteer of a vehicle.

At least for these reasons, the now pending claims are neither anticipated by nor obvious in view of the Japan 403 reference, and should be allowed.

14. Claims 5, 8, and 62 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 403 in view of Shibata, Landers et al and Japan 610 as applied above and further in view of Japan 177.

For the reasons stated before, with respect to reference Japan 403 and Japan 177, claims 5, 8, and 62 are not obvious in view of the cited references.

15. Claims 5, 7, and 62 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 403 in view of Shibata, Landers et al and Japan 610 as applied above and further in view of Japan 413 (JP 63-218413).

For the reasons stated before, with respect to reference Japan 403, claims 5, 7, and 62 are not obvious in view of the cited references.

16. Claims 5, 9, and 62 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 403 in view of Shibata, Landers et al and Japan 610 as applied above and further in view of Costa Pereira et al (US 6,116,313).

For the reasons stated before, with respect to reference Japan 403, claims 5, 9, and 62 are not obvious in view of the cited references.

17. Claims 7 and 10-12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 403 in view of Shibata, Landers et al and Japan 610 as applied above and further in view of Muramatsu et al (US 5,541,489) and/or Bartkowiak (US 5,069,331).

For the reasons stated before, with respect to reference Japan 403, claims 7 and 10-12 are not obvious in view of the cited references.

In view of the above amendment, Applicant submits that the pending application is in condition for allowance, and such action is respectfully solicited.

The Commissioner is authorized to debit Deposit Account No. 08-0219 for any required fee necessary to maintain the pendency of this application.

Respectfully submitted,

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